ASA Series

AUDIO SUMMING AMPLIFIERS

- Converts stereo audio signals to balanced/unbalanced mono audio
- The ASA 101, ASA 111, ASA 121, and ASA 131 are convenient, passive single-cable audio summing adapters
- The ASA 204 and ASA 304 are four independent, active audio summing amplifiers in single enclosures
- Versatile mounting options

ASA 101

ASA 111

ASA 121

ASA 131

ASA 204

ASA 304

The Extron ASA Series of high performance Audio Summing Adapters and Audio Summing Amplifiers convert two-channel stereo audio signals to balanced or unbalanced mono audio. Designed to be inserted between a stereo audio source output and a mixer or pre-amplifier input, the ASA Series models are ideal for background music, paging systems, distributed audio sound systems, and environments that have a mono sound system.

DESCRIPTION

ASA 100 Series

The Extron **ASA 100 Series** of Audio Summing Adapters are convenient, single-cable solutions for combining two-channel stereo audio into a mono audio signal. They are ideal for mono PA systems in churches, halls, arenas, stadiums, and other environments where stereo sound reinforcement would provide an uneven reproduction to the listener. Because they are small and passive devices, these Audio Summing Adapters are especially useful in systems where power and space are limited.

The ASA 100 series are configured as 2 foot long adapters with various input connectors to match the specific outputs of stereo source equipment. Each features a resistor network to properly sum stereo signals without signal loss or damage to source equipment. An internal transformer is offered on the ASA 101 to isolate the signal from load and provide a balanced output. For a wider frequency response the ASA 111, ASA 121, and ASA 131 are offered without an internal transformer. The table below identifies the configurations of the ASA 100 series.

Model	Input Connector	Output	Transformer
ASA 101	(2) RCA Male	Bal./Unbal.	Yes
ASA 111	(1) 3.5 mm Stereo Mini Jack	Unbalanced	No
ASA 121	(2) RCA Male	Unbalanced	No
ASA 131	(1) Captive Screw Plug	Bal./Unbal.	No

All ASA 100 Series products are 2 feet long and have a captive screw connector output.

ASA 204 and ASA 304

The Extron **ASA 204** and **ASA 304** are high performance Audio Summing Amplifiers that convert two-channel stereo audio signals to balanced/unbalanced mono audio signals. They are ideal for mono PA systems in churches, halls, arenas, stadiums, and other environments.

The ASA 204 and ASA 304 offer four independent, active audio summing amplifiers in a single enclosure. They convert stereo audio signals from four different sources into mono audio signals and include switch-selectable gain to achieve different output gain levels. While the ASA 204 and ASA 304 offer different input connector configurations to meet specific integration needs, both provide balanced/unbalanced outputs on captive screw connectors. These high performance summing amplifiers enable long cable runs and immunity from interference and noise normally associated with the use of unbalanced audio equipment in professional integration projects. The table below shows the configurations of the ASA 204 and ASA 304.

ASA 204 and ASA 304 Configurations:

Model	Input Connector	Output
ASA 204	(4) RCA Female Pairs	Bal./Unbal.
ASA 304	(4) 5-pole Captive Screw Connectors	Unbalanced

Active ASA products are housed in a 1U, quarter rack width metal enclosure.

Part of the VersaTools® line of products, the ASA 204 and ASA 304 are housed in 1U, quarter rack width metal enclosures, are easy to install in small spaces, and are rack, under-desk, and projector-mountable.

FEATURES

ASA 100 Series

- **Converts stereo audio to mono audio**
- **Resistor network provides passive audio summing**
- **Compact design for easy installation into small spaces or behind equipment in a rack**
- **Mono output on captive screw connectors**
- **2 foot (60 cm) length**
- **The ASA 101 features an internal transformer to isolate signal from load and provide a balanced audio output**
- **The ASA 111, ASA 121, and ASA 131 feature a transformerless design for wide frequency response**

ASA 204 and ASA 304

- **Converts stereo audio to balanced or unbalanced mono audio**
- **Active summing circuit**
- **Mono outputs on captive screw connectors**
- **Switchable gain**
- **Rack, under-desk, and projector-mountable**
- **The ASA 204 features stereo inputs on RCA connectors**
- **The ASA 304 features stereo inputs on captive screw connectors**
- **External international power supply included (part # 70-055-01)**

ASA 101 Gain Specifications

Input Channel		Output Wiring	
Left	Right	Unbalanced	Balanced
signal	signal	0 dB	+6 dB
signal	——*	-6 dB	0 dB
——*	signal	-6 dB	0 dB

***Tested with this input remaining connected**

ASA 111, 121, & 131 Gain Specifications

Input Channel		Output
Left	Right	Unbalanced
signal	signal	-1 dB
signal	——*	-7 dB
——*	signal	-7 dB

***Tested with this input remaining connected**

ASA 204 & ASA 304 Gain Specifications

Input Channel		Output Wiring	Output DIP Switch Settings	
Left	Right		Unbalanced	Balanced
Signal	Signal	Balanced	+9 dB	+3 dB
Signal	——	Balanced	+3 dB	-3 dB
——	Signal	Balanced	+3 dB	-3 dB
Signal	Signal	Unbalanced	+3 dB	-3 dB
Signal	——	Unbalanced	-3 dB	-9 dB
——	Signal	Unbalanced	-3 dB	-9 dB

ASA 101, 111, 121, and 131

AUDIO

Gain	
ASA 101	See previous page. Tested with a 20k ohm load.
ASA 111, ASA 121	See previous page. Tested with an unbalanced output and a 20k ohm load.
ASA 131	See previous page. Tested with a balanced output and a 20k ohm load.
Frequency response	
ASA 101	87 Hz to 20 kHz, -3 dB (with a 20k ohm load, 1% THD, and -10 dBV input)
All other models	20 Hz to 20 kHz, ±0.05 dB THD + Noise
ASA 101	1% @ 87 Hz to 20 kHz at nominal level
All other models	0.03% @ 20 Hz to 20 kHz at nominal level
S/N	130 dB at maximum output

AUDIO INPUT

Number/signal type	
ASA 101, ASA 111, ASA 121	1 stereo, unbalanced
ASA 131	1 stereo, balanced
Connectors	
ASA 101, ASA 121	1 pair of male RCA (tip-ring)
ASA 111	(1) 3.5 mm male stereo mini jack (tip-ring-sleeve)
ASA 131	(1) 3.5 mm captive screw connector, 5-pole
Impedance	
ASA 101	12k ohms (with a 20k ohm balanced load, one input terminated); 250 ohms (with a 20k ohm balanced load, both inputs terminated)
ASA 111, ASA 121	22k ohms (with a 20k ohm unbalanced load, one input terminated); 4k ohms (with a 20k ohm unbalanced load, both inputs terminated)
ASA 131	24k ohms (with a 20k ohm balanced load, one input terminated); 7k ohms (with a 20k ohm balanced load, both inputs terminated)
Nominal level	
ASA 101, ASA 111, ASA 121	-10 dBV (316 mV)
ASA 131	+4 dBu (1.23 V)
Maximum level	
ASA 101	+15 dBu (4.4 V) @ 1 kHz, (balanced or unbalanced) at 1% THD+N; +4 dBu (1.23 V) @ 300 Hz to 20 kHz at 1% THD+N
ASA 111, ASA 121, ASA 131	+24 dBu (12.3 V) @ 20 Hz to 20 kHz, (balanced or unbalanced) at 1% THD+N

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

AUDIO OUTPUT

Number/signal type	
ASA 101	1 mono, balanced/unbalanced
ASA 111, ASA 121	1 mono, unbalanced
ASA 131	1 mono, balanced
Connectors	(1) 3.5 mm direct insertion captive screw connector, 3 pole
Impedance (with 50 ohm input impedance)	
ASA 101	75 ohms unbalanced, 150 ohms balanced
ASA 111, ASA 121	1k ohms unbalanced
ASA 131	2k ohms balanced
Nominal level	
ASA 101, ASA 111, ASA 121	-10 dBV (316 mV)
ASA 131	+4 dBu (1.23 V)
Maximum level	
ASA 101	+15 dBu (4.4 V) @ 1 kHz, (balanced) at 1% THD+N +4 dBu (1.25 V) @ 300 Hz to 20 kHz, (balanced) at 1% THD+N
ASA 111, ASA 121	+24 dBu (12.3 V) @ 20 Hz to 20 kHz, (unbalanced) at 1% THD+N
ASA 131	+24 dBu (12.3 V) @ 20 Hz to 20 kHz, (balanced) at 1% THD+N

GENERAL

Power	Not powered
Rack mount	Can be attached to any flat surface with supplied Velcro®
Enclosure type	Molded plastic
Enclosure dimensions	0.7" H x 1.0" W x 1.5" D 1.8 cm H x 2.5 cm W x 3.8 cm D (Depth excludes the 24 inch long pigtail for ASA 101 and ASA 121, and the 24 inch long single cable for the ASA 111 and ASA 131.)
Product weight	0.2 lbs (0.1 kg)
Shipping weight	1 lb (1 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Listings	UL, CUL
Compliances	CE, FCC Class A, VCCI, AS/NZS, ICES
MTBF	30,000 hours
Warranty	3 years parts and labor

NOTE: All nominal levels are at ±10%.

ASA 204 and 304

AUDIO

Gain	Generally unity. Actual gain depends on whether or not both inputs have signals and also on the output wiring and DIP switch settings. See previous page for gain table.
Frequency response	20 Hz to 20 kHz, ±0.05 dB
THD + Noise	0.03% @ 1 kHz at nominal level
S/N	>90 dB (balanced) at rated maximum output
CMRR	>75 dB @ 20 Hz to 20 kHz

AUDIO INPUT

Number/signal type	
ASA 204	4 stereo, unbalanced
ASA 304	4 stereo, balanced/unbalanced
Connectors	
ASA 204	4 pairs of female RCA (tip-ring)
ASA 304	(4) 3.5 mm captive screw connectors, 5 pole
Impedance	
ASA 204	>10k ohms unbalanced, DC coupled
ASA 304	>17k ohms unbalanced, 23k ohms balanced, DC coupled
Nominal level	
ASA 204	-10 dBV (316 mV)
ASA 304	+4 dBu (1.23 V)
Maximum level	+20 dBu (7.75 V), (balanced or unbalanced) at 1% THD+N

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

AUDIO OUTPUT

Number/signal type	4 mono, balanced/unbalanced
Connectors	(2) 3.5 mm captive screw connectors, 5 pole (double stacked)
Impedance	<50 ohms unbalanced, 100 ohms balanced
Nominal level	
ASA 204	-10 dBV (316 mV)
ASA 304	+4 dBu (1.23 V)
Maximum level (Hi-Z) (ASA 204, ASA 304 only)	>+23 dBu, balanced; or >+17 dBu, unbalanced at 1% THD+N
Maximum level (600 ohm) (all models)	>+21 dBm, balanced; or >15 dBu, unbalanced at 1% THD+N

GENERAL

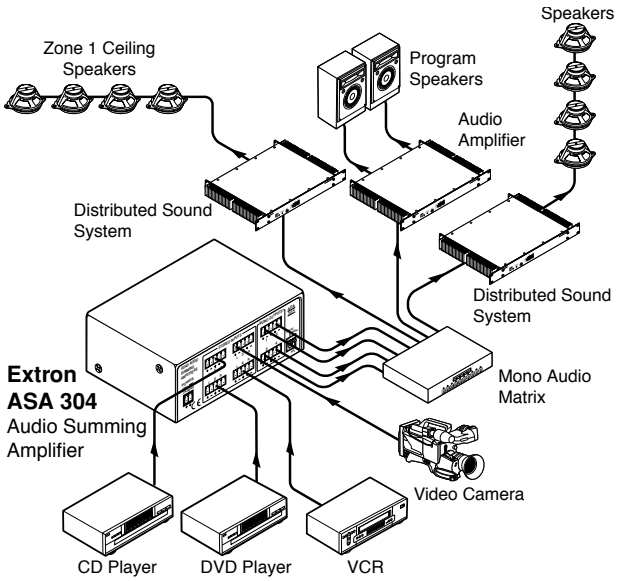
External power supply	100 VAC to 240 VAC, 50/60 Hz, external, autoswitchable; to 12 VDC, 1 A (max.), regulated
Power input requirements	12 VDC, 0.2 A
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Rack mount	Yes, with optional 1U rack shelf, part #60-190-01 or 60-604-01; or VersaTools® rack shelf, part #60-190-20 or 60-604-20. Also furniture mountable with optional under desk mounting brackets, #70-212-01, or projector mountable with bracket kit #70 217 01.
Enclosure type	Metal
Enclosure dimensions	1.7" H x 4.3" W x 3.0" D (1U high, quarter rack wide) 4.3 cm H x 10.9 cm W x 7.6 cm D (Depth excludes connectors.)
Product weight	0.5 lbs (0.3 kg)
Shipping weight	3 lbs (2 kg)
Vibration	STA 1A in carton (International Safe Transit Association)
Listings	UL, CUL
Compliances	CE, FCC Class A, VCCI, AS/NZS, ICES
MTBF	30,000 hours
Warranty	3 years parts and labor

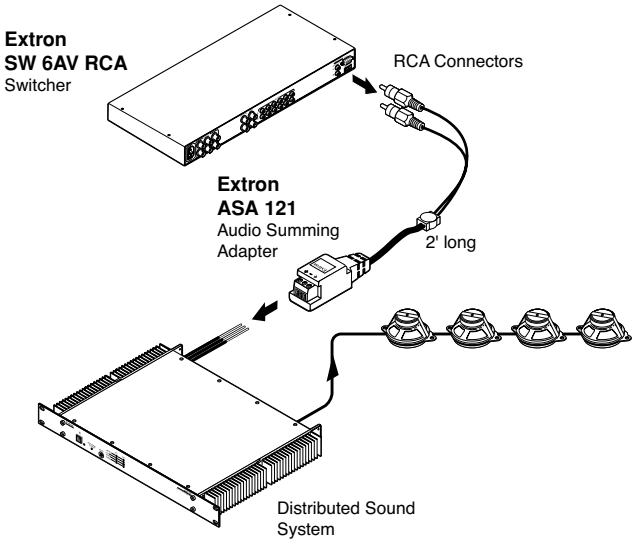
NOTE: All nominal levels are at ±10%.

Model	Part Number
ASA 101	60-551-01
ASA 111	60-738-01
ASA 121	60-739-01
ASA 131	60-740-01
ASA 204	60-552-30
ASA 304	60-552-20

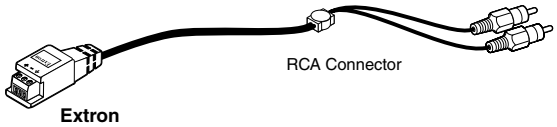
Specifications are subject to change without notice.

APPLICATION DIAGRAMS

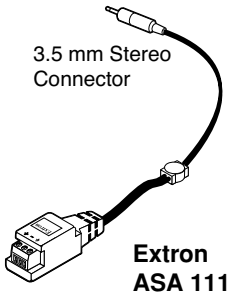




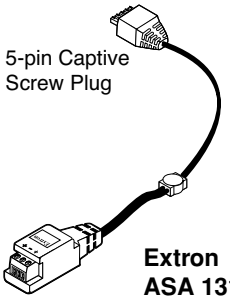
PANEL DRAWINGS



Extron
ASA 101 & ASA 121
Audio Summing Adapters



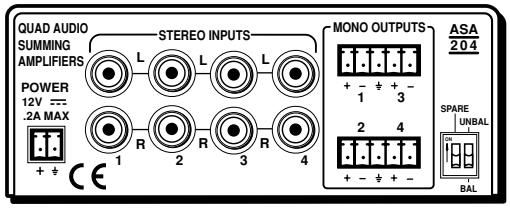
Extron
ASA 111
Audio Summing Adapter



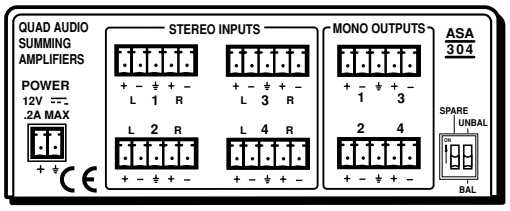
Extron
ASA 131
Audio Summing Adapter

ASA 204 (Front)

ASA 304 (Front)



ASA 204 (Back)



ASA 304 (Back)

Extron Electronics, USA
1230 South Lewis Street
Anaheim, CA 92805
800.633.9876 714.491.1500
FAX 714.491.1517

Extron Electronics, Europe
Beeldschermweg 6C
3821 AH Amersfoort, The Netherlands
+800.3987.6673 +31.33.453.4040
FAX +31.33.453.4050

Extron Electronics, Asia
135 Joo Seng Rd. #04-01
PM Industrial Bldg., Singapore 368363
+800.7339.8766 +65.6383.4400
FAX +65.6383.4664

Extron Electronics, Japan
Kyodo Building, 16 Ichibancho
Chiyoda-ku, Tokyo 102-0082
Japan
+81.3.3511.7655 FAX +81.3.3511.7656

© 2005 Extron Electronics. All rights reserved. All trademarks mentioned are the property of their respective owners.

05-05
68-1093-01
REV. B